

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of processing a packet comprising:
receiving the packet;
translating the packet from a first protocol-specific format to a canonical packet format comprising a fixed length generic packet format that can represent multiple protocol-specific formats, but is not the same as any one protocol-specific format; having a fixed length;
translating the packet from the canonical packet format to a second protocol-specific format; and
forwarding the packet[[:]]
~~wherein the canonical packet format is a generic format that can represent multiple protocol-specific formats.~~
2. (Cancelled)
3. (Original) A method of processing a packet as recited in claim 1 wherein the translating is performed in a network device.
4. (Original) A method of processing a packet as recited in claim 1 wherein the translating is performed in a network switch.
5. (Original) A method of processing a packet as recited in claim 1 wherein the translating is performed in a network switch that includes a pooling switch.
6. (Original) A method of processing a packet as recited in claim 1 wherein the first and second protocol-specific formats are the same.

7. (Previously presented) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes writing information associated with protocol-specific fields from the packet in the first protocol-specific format.
8. (Previously presented) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes writing information associated with protocol-specific fields from the packet in the first protocol-specific format to protocol-specific fields in the packet in the canonical packet format.
9. (Previously presented) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes writing information associated with general fields from the packet in the first protocol-specific format.
10. (Previously presented) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes writing information associated with multiple protocol-specific fields from the packet in the first protocol-specific format.
11. (Previously presented) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes writing information associated with protocol-specific fields from the packet in the first protocol-specific format to common fields in the packet in the canonical packet format.
12. (Previously presented) A method of processing a packet as recited in claim 1 wherein translating the packet from a first protocol-specific format to a canonical packet format includes:

writing information associated with protocol-specific fields from the packet in the first protocol-specific format to protocol-specific fields in the packet in the canonical packet format;

writing information associated with general fields from the packet in the first protocol-specific format to general fields in the packet in the canonical packet format; and

writing information associated with common fields from the packet in the first protocol-specific format to common fields in the packet in the canonical packet format.

13. (Original) A method of processing a packet as recited in claim 1 wherein:

the translating is performed in a network device;

translating the packet from the first protocol-specific format to the canonical packet format occurs during data ingress; and

translating the packet from the canonical packet format to the second protocol-specific format occurs during data egress.

14. (Currently Amended) A network device for processing a packet comprising:

an ingress interface for receiving the packet;

an ingress processing engine configured to translate a packet from a first protocol-specific format to a canonical packet format comprising a fixed length generic packet format that can represent multiple protocol-specific formats, but is not the same as any one protocol-specific format; having a fixed length;

an egress processing engine configured to translate the packet from the canonical packet format to a second protocol-specific format; and

an egress interface for forwarding the packet[[:]]

~~wherein the canonical packet format is a generic format that can represent multiple protocol-specific formats.~~

15. (Previously presented) A network device for processing a packet as recited in claim 14 wherein the ingress and egress interfaces are the same physical interface.
16. (Previously presented) A network device for processing a packet as recited in claim 14 wherein the ingress and egress processing engines are implemented on a single physical processor.
17. (Previously presented) A method of processing a packet as recited in claim 1 wherein at least one field of the canonical packet format is shared by multiple protocols.
18. (Currently Amended) A computer program product for processing a packet, the computer program product being embodied in a computer readable medium and comprising computer instructions for:

receiving the packet;

translating the packet from a first protocol-specific format to a canonical packet format comprising a fixed length generic packet format that can represent multiple protocol-specific formats, but is not the same as any one protocol-specific format; having a fixed length;

translating the packet from the canonical packet format to a second protocol-specific format; and

forwarding the packet[[:]]

~~wherein the canonical packet format is a generic format that can represent multiple protocol-specific formats.~~

19. (New) A method of processing a packet as recited in claim 1 wherein the canonical packet format includes a shared field in which values from different fields specific to different protocols are placed.

20. (New) A method of processing a packet as recited in claim 1 wherein the canonical packet format includes: a multiple protocol-specific field associated with a field common to

multiple protocols; and a protocol specific-field associated with a field that is specific to only one protocol.